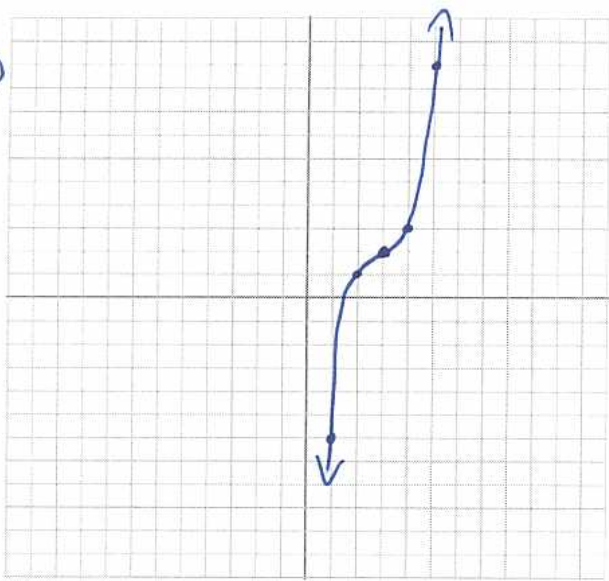
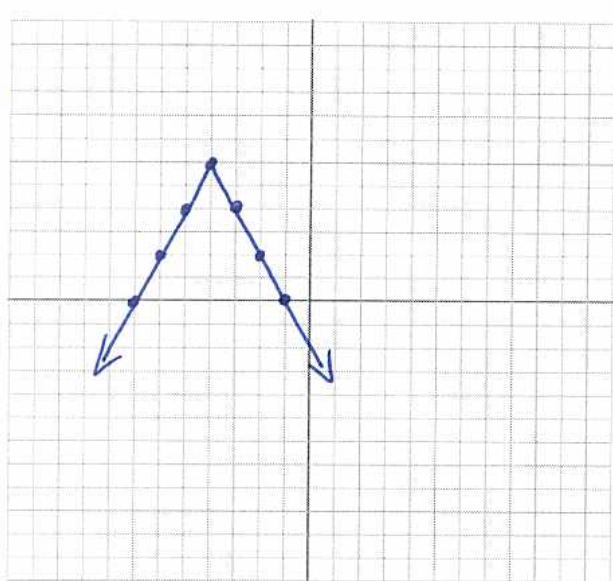


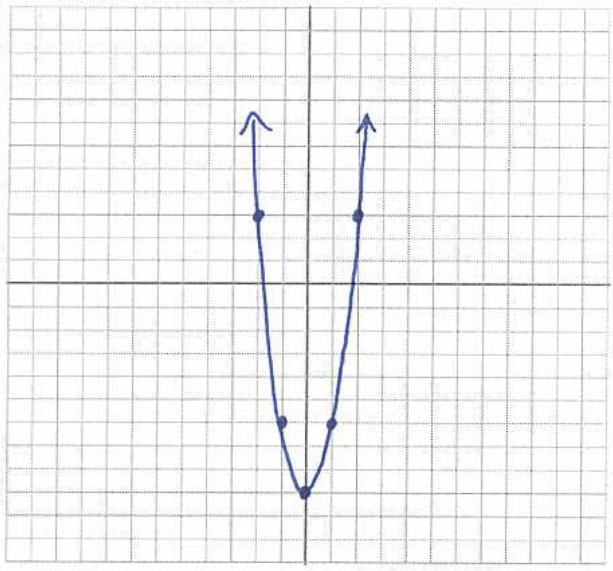
①



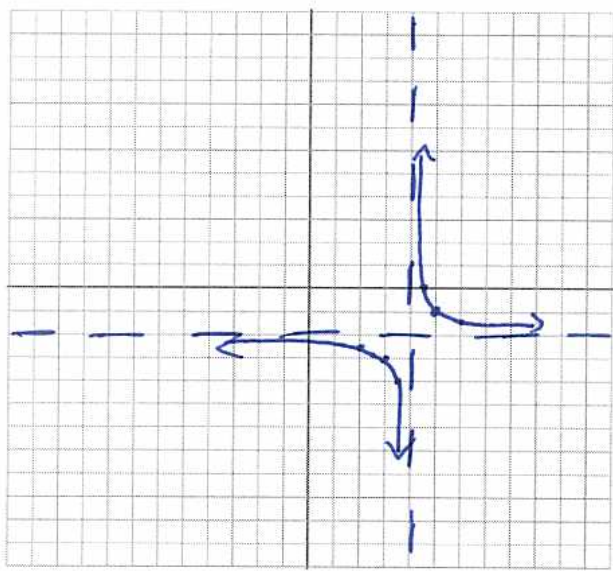
②



③



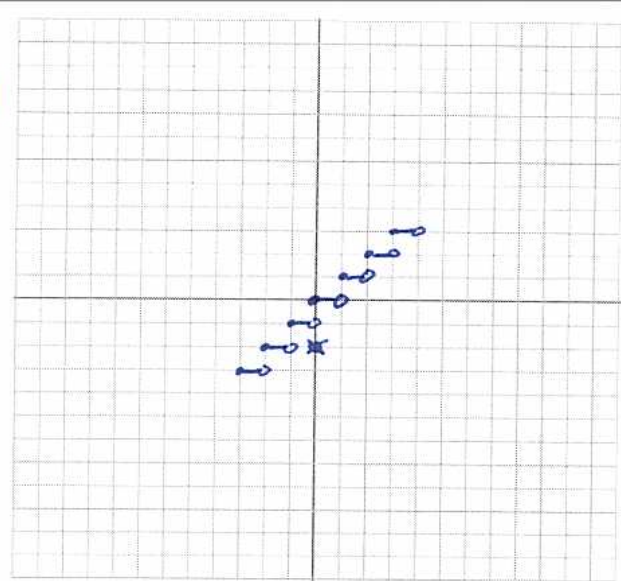
④



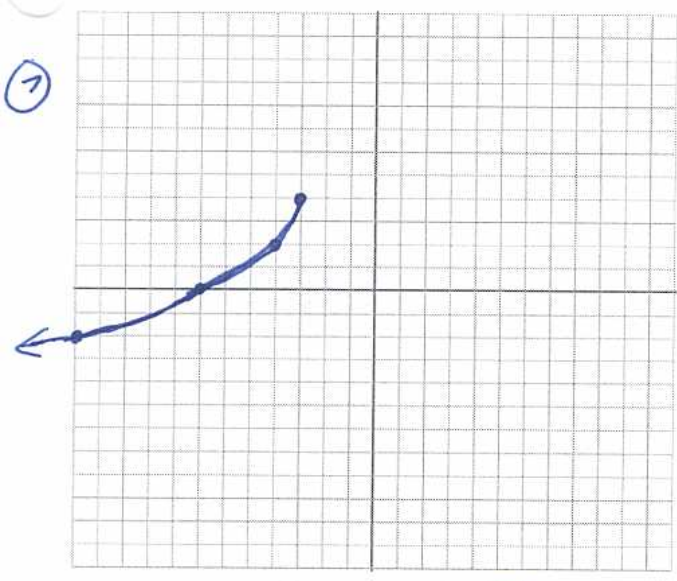
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6

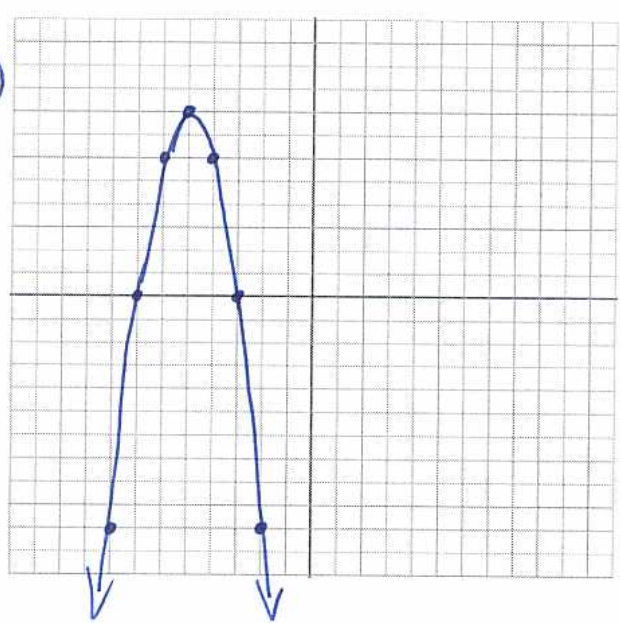


7

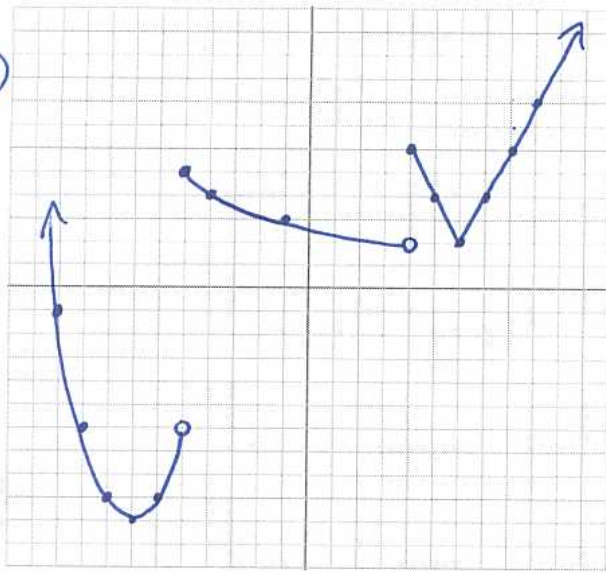


$$4 - 2\sqrt{-(x+3)}$$

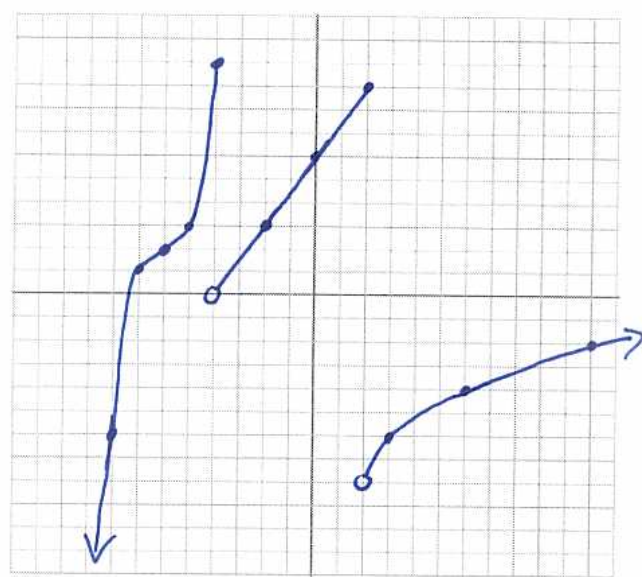
8



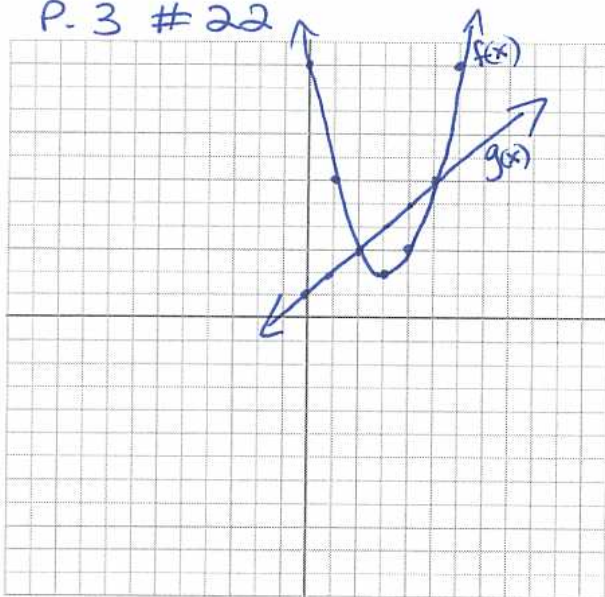
9



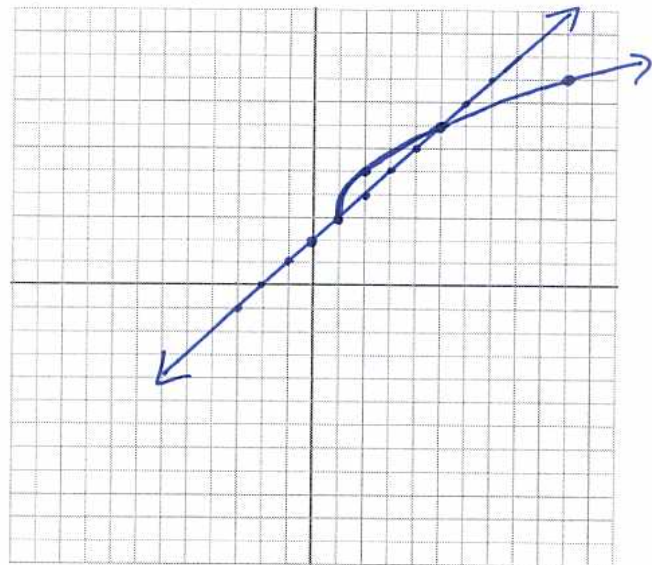
10



P. 3 # 22



P. 3 # 23



$$\textcircled{11} \quad f(x) = 2 - \sqrt{x-3}$$

\uparrow up 2 \uparrow open down \nwarrow right + 3

$$\textcircled{12} \quad f(x) = \begin{cases} (x+3)^2 - 2 & x < -2 \\ |x+1| - 1 & -2 \leq x < 1 \\ -2 + \sqrt{x-1} & x \geq 1 \end{cases}$$

$$\textcircled{15} \quad \frac{5}{x+7} + x-7 = \frac{5}{x+7} + \frac{(x-7)(x+7)}{x+7} = \frac{5 + x^2 - 49}{x+7} = \boxed{\frac{x^2 - 44}{x+7}}$$

$$\textcircled{16} \quad x-7 - \frac{5}{x+7} = \frac{(x-7)(x+7)}{x+7} - \frac{5}{x+7} = \frac{x^2 - 49 - 5}{x+7} = \boxed{\frac{x^2 - 54}{x+7}}$$

$$\textcircled{17} \quad (x-7)(x^2 - 49) = x^3 - 49x - 7x^2 + 343$$

$$\boxed{x^3 - 7x^2 - 49x + 343}$$

$$\textcircled{18} \quad \frac{x-7}{x^2-49} = \frac{x-7}{(x-7)(x+7)} = \boxed{\frac{1}{x+7}}$$

$$\textcircled{19} \quad (x-7)^2 - 49 = x^2 - 14x + 49 - 49$$

$$\boxed{x^2 - 14x}$$

$$(20) \quad \frac{5}{(x-7)+7} = \boxed{\frac{5}{x}}$$

$$(21) \quad (x^2-49)^2 - 49 = x^4 - 98x^2 + 2401 - 49$$

$$\boxed{x^4 - 98x^2 + 2352}$$

$$(22) \quad \frac{(x+m)^2 - 49 - (x^2 - 49)}{m} = \frac{x^2 + 2xm + m^2 - 49 - x^2 + 49}{m}$$

$$\frac{2xm + m^2}{m} = \boxed{2x + m}$$

$$(23) \quad g(2) = 2 - 7 = -5$$

$$f(-5) = \frac{5}{-5+7} = \boxed{\frac{5}{2}}$$

Page 3:

$$(22) \quad g(x) - f(x)$$

$$x + 1 - (x-3)^2 + 2$$

$$x + 1 - x^2 + 6x - 9 + 2$$

$$\boxed{-x^2 + 7x - 6}$$

$$(23) \quad f(x) - g(x)$$

$$3 + 2\sqrt{x-1} - (x+2)$$

$$3 + 2\sqrt{x-1} - x - 2$$

$$\boxed{2\sqrt{x-1} - x + 1}$$

$$(24) f(g(x)) = 4\left(\frac{\pm\sqrt{x+11}}{2}\right)^2 - 11$$

$$4\left(\frac{x+11}{4}\right) - 11$$

$$x+11 = 11$$

$$\boxed{X}$$

$$g(f(x)) = \frac{\pm\sqrt{(4x^2-11)+11}}{2}$$

$$\frac{\pm\sqrt{4x^2}}{2}$$

$$\pm\frac{2x}{2} = \boxed{X}$$

these are inverses

$$(25) f(g(x)) = \frac{5\left(\frac{3}{5}x-7\right)+7}{3} = \frac{3x-35+7}{3} = \frac{3x-28}{3}$$

not inverses

$$(25) y = \sqrt{x-2}$$

$$x = \sqrt{y-2}$$

$$x^2 = y-2$$

$$y = x^2 + 2$$

$$\boxed{f^{-1}(x) = x^2 + 2}$$

$$(26) x = \frac{3y-6}{4y+8}$$

$$x(4y+8) = 3y-6$$

$$4xy+8x = 3y-6$$

$$4xy-3y = -8x-6$$

$$y(4x-3) = -8x-6$$

$$y = \frac{-8x-6}{4x-3}$$

27 & 28 we will go over in class

$$(29) y = 1.9749x + 203.859$$

$$(30) r = .8628$$

$$(31) \text{Trace on 35} = \boxed{272.982}$$

$$(32) \text{Trace so that } y = 300 \rightarrow \text{about } \boxed{48.9 \text{ min}}$$

$$(33) a) g = w K$$

$$1.7 = .5 K$$

$$\boxed{K = 3.4}$$

$$b) g = 3.4 w$$

$$c) g = 3.4 (.62)$$

$$\boxed{g = 2.108 \text{ cm/day}}$$

$$d) 1.2 = 3.4 w$$

$$\boxed{w = .35 \text{ cups}}$$

$$(34) a) A = \frac{K}{L}$$

$$b) \left(\frac{4.76}{2}\right)^2 \pi = \frac{K}{453}$$

$$\boxed{K = 8061.2426}$$

$$b) A = \frac{8061.2426}{L}$$

$$c) A = \frac{8061.2426}{573}$$

$$\boxed{A = 14.068 \text{ mm}^3}$$

$$d) 18.5 = \frac{8061.2426}{L}$$

$$\boxed{L = 435.74 \text{ Lux}}$$

$$\textcircled{34} \quad D: [-6, \infty) \quad \textcircled{35} \quad D: (-\infty, -2) \cup [2, \infty)$$

$$R: [2, \infty) \quad R: [-8, \infty)$$

$$\textcircled{36} \quad x^2 - 12 \neq 0$$

$$x^2 \neq 12$$

$$x \neq \pm\sqrt{12}$$

$$D: (-\infty, -2\sqrt{3}) \cup (-2\sqrt{3}, 2\sqrt{3}) \cup (2\sqrt{3}, \infty)$$

$$\textcircled{37} \quad x + 2 > 0$$

$$x > -2$$

$$D: (-2, \infty)$$

$$\textcircled{38} \quad x - 7 \neq 0 \text{ and } 2x - 6 \geq 0$$

$$x \neq 7 \quad 2x \geq 6$$

$$x \geq 3$$

$$D: [3, 7) \cup (7, \infty)$$

$$\textcircled{39} \quad 2x^3 - x^2 - 10x = 0$$

$$x(2x^2 - x - 10) = 0$$

$$x(2x - 5)(x + 2) = 0$$

$$x = 0 \quad x = \frac{5}{2} \quad x = -2$$

$$\textcircled{40} \quad x^2 - 36 = 0$$

$$x^2 = 36$$

$$x = \pm 6 \text{ but } -6 \text{ is not in the domain of } f(x). \text{ so the zero is } \boxed{x = 6}$$

④① x-axis: $(x, y) \rightarrow (x, -y)$

$$x^2 + (-y)^2 = 16$$

$$x^2 + y^2 = 16$$

sym to x-axis

y-axis: $(x, y) \rightarrow (-x, y)$

$$(-x)^2 + y^2 = 16$$

$$x^2 + y^2 = 16$$

sym to y-axis

origin: $(x, y) \rightarrow (-x, -y)$

$$(-x)^2 + (-y)^2 = 16$$

$$x^2 + y^2 = 16$$

sym to origin

④②

x-axis: $(x, y) \rightarrow (x, -y)$

$$-y = x^5 - 7x$$

$$y = -x^5 + 7x$$

not sym to x

y-axis: $(x, y) \rightarrow (-x, y)$

$$y = (-x)^5 - 7(-x)$$

$$y = -x^5 + 7x$$

not sym to y

origin: $(x, y) \rightarrow (-x, -y)$

$$-y = (-x)^5 - 7(-x)$$

$$-y = -x^5 + 7x \rightarrow y = x^5 - 7x$$

sym to origin